

NOTES ON CASUARINACEAE

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ABSTRACT

Johnson, L. A. S. (National Herbarium of New South Wales, Royal Botanic Gardens, Sydney, Australia 2000) 1980. Notes on Casuarinaceae. Telopea 2 (1): 83–84.—In this precursory note, the new genus *Gymnostoma* and one new species, *G. vitiense*, are described; a new combination is made for *G. nodiflorum* (Thunb.) L. A. S. Johnson. The use of *Casuarina equisetifolia* is briefly discussed.

I. GYMNSTOMA

In a treatment in preparation, I shall give reasons for recognizing four genera in the Casuarinaceae. As a precursor to Volume 2 of Professor A. C. Smith's 'Flora Vitiensis Nova', it is necessary to establish one of the new genera in advance and to describe the single Fijian endemic species.

Gymnostoma L. A. S. Johnson, gen. nov.

Ramuli persistentes novelli eis deciduis similes; ramuli omnes quadricostati, sulcis intercostalibus apertis non profundis, seriebus stomatum expositis. Folia 4 in verticello unoquoque. Spiculae florum masculorum in ramulis floriferis eis vegetativis non valde distinctis dispositae, simplices vel aspectu compositae ramificationis condensatione; spiculae foemineae in ramulis brevibus elongatisve sed aspectu eis vegetativis similibus dispositae. Infructescientiae plerumque inter ramulos assimilantes dispositae; bracteae distaliter expansae facie abaxiali infra apicem verticali manifestaque, latiore quam altiore; bracteolae protrudentes in dorso convexae sed nec fissae nec protuberatione instructae. Chromosomata ut cognita $n = 8$.

Persistent branchlets similar, as new shoots, to the deciduous branchlets; all branchlets 4-ribbed, the intercostal furrows shallow and open, exposing the stomates. *Leaves* in whorls of 4. *Male inflorescences* borne on branchlets differing little from the vegetative ones, simple or appearing compound owing to condensation of branching; *female inflorescences* borne on branchlets that are short or elongated but similar in aspect to vegetative branchlets. *Inflorescences ('cones')* mostly borne amongst the assimilatory branchlets; bracts expanded distally with the abaxial surface vertical below the apex and broader than high; bracteoles protruding, convex on the back but neither split nor furnished with a protuberance. *Chromosome number* $n = 8$, so far as known.

SPECIES TYPICA: *G. nodiflorum* (Thunb.) L. A. S. Johnson (*Casuarina nodiflora* Thunb.).

18 species, from Malesia to N.E. Australia, Fiji, and New Caledonia.

The name is derived from Greek *gymnos* = naked, and *stoma* = mouth, referring to the exposed position of the stomata on the branchlets. Poisson (1874, p. 103) recognized a 'Divisio' *Casnarinae Tetragonae seu Gymnostomae*, but the new genus is not formally based on Poisson's taxon.

***Gymnostoma nodiflorum* (Thunb.) L. A. S. Johnson, comb. nov.**—*Casuarina nodiflora* Thunb., Nova Genera Plantarum: 54 (1782), Basionym. HOLOTYPE: New Caledonia, Forster (UPS).

This New Caledonian endemic will be discussed in the paper in preparation. The name *Casuarina nodiflora* has been widely misused.

Gymnostoma vitiense L. A. S. Johnson, sp. nov.

Ramuli rigidiusculi plus minusve erecti; articuli 3–5 mm longi, 0.5–0.8 mm diametro, ei ramulorum paenultimorum saepe valde abbreviati in regionibus ramuliferis; laminae foliorum (dentes) brevissimae (0.2–0.3, rare 0.5 mm longae), ovato-deltoidae arcte incurvae; inflorescentiae masculae (ut videtur) subcompositae 1–5 mm longae; infructescentiae mediocres, corpore (bracteolis exclusis) 14–23 mm longo, 11–20 mm diametro, bracteis bracteolisque longitudinaliter striatis.

Brauchlets rather rigid, more or less erect; articles 3–5 mm long, 0.5–0.8 mm diam., those of the penultimate branchlets often much abbreviated in the branchlet-bearing regions; leaf-laminae ('teeth') very short (0.2–0.3, rarely to 0.5 mm long), ovate-deltoid and strongly incurved; male inflorescences (so far as seen) subcompound, 1–5 mm long; inflorescences ('cones') medium-sized, the body (excluding the bracteoles) 14–23 mm long, 11–20 mm diam., the bracts and bracteoles longitudinally striate.

HOLOTYPE: Viti Levu: Naitasiri: Colo-i-Suva, L. A. S. Johnson NSW 143813, 20.8.1969; ♀ with mature infructescences.

The name *Casuarina nodiflora* has generally been misapplied to this species in Fiji, where it is endemic. It will be discussed more fully later.

2. *Casuarina equisetifolia*

Fosberg & Sachet (1975) have taken up the name '*Casuarina litorea* L.' in place of *C. equisetifolia* for this widespread and very well-known tropical and subtropical species. They also attribute the generic name *Casuarina* to Linnaeus, citing 'Diss. Stickman, 12, 1954 [as *Casaarina*, sphalm.]' as the place of publication.

I have in preparation a detailed discussion of the very complex nomenclatural problems presented by this case and others related to it. The present note is merely to indicate that there is a substantial case against the interpretation of Fosberg and Sachet, and for the retention of the name *Casuarina equisetifolia* Forst. et Forst. f. This case rests on the interpretation of the International Code of Botanical Nomenclature (Stafleu et al., 1978) and not on any *ad hoc* proposal to outlaw the Stickman dissertation. Consequently, I recommend strongly that the name *Casuarina equisetifolia*, being in current use, be retained, at least until the counter-argument to Fosberg and Sachet has been fully considered.

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